NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

SOIL SALINITY MANAGEMENT – NONIRRIGATED

(acre)
CODE 571

DEFINITION

Management of land, water, and plants to control harmful accumulations of salts on the soil surface or in the root zone on non-irrigated areas.

PURPOSE

Treatment of saline or sodic-affected areas on non-irrigated land to permit desired plant growth and to protect surface and ground water resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all non-irrigated land where human-induced soil salinity or sodicity is at or approaching a level that adversely affects land use, or combinations of factors such as topography, soils, geology, precipitation, and land use, indicate the future probability of such adverse effects.

CRITERIA

The soil must be capable of supporting the planned vegetation economically.

Corrective measures must comply with water quality laws and regulation. Monitoring of before and after conditions is required.

CONSIDERATIONS

Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Potential for transfer of salinity conditions to another location where surface or subsurface drains are used.

Effects of erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances, including salts, that could be carried by runoff.

Planned actions should give first consideration to prevention rather than correction:

- To the maximum extent practical, use vegetation to utilize soil water in the recharge areas.
- When subsurface drains are needed, the configuration selected will give priority consideration to placing interceptor drains close to the recharge area to maximize the benefited area and provide a drain effluent of the best possible water quality.
- Where applicable, improve surface drainage in the recharge area.

PLANS AND SPECIFICATIONS

Plans and specifications for managing soil salinity and sodicity must evaluate the area in question in a methodical fashion to include the following:

- Map the affected area.
- Test the soil water extract of the soil surface and potential root zone to determine the presence and concentration of saline or sodic substances. Refer to National Engineering Handbook, Part 652, Chapter 3, Crops, for guidance on how salinity and sodicity levels affect plant growth.
- Determine the relationship of the ground surface topography and the water table contours in and adjacent to the problem area. One suggested method involves installing nine (three rows of three) auger hole observation wells for water table measurements. Additional wells may be needed to adequately define the recharge area.

- Correct the salinity problem by applying the practice(s) as part of an overall resource management system (RMS).

Specifications should include the following:

- A list of plants adapted for use in recharge and affected area. Consider factors such as water usage, salt tolerance, and erosion control characteristics.
- A list of conservation practices that constitute components of the treatment of recharge and affected areas.
- A list of the types and extent of environmental and ecological monitoring and evaluation that may be necessary.
- A monitoring plan to evaluate the effects of practices applied.

OPERATION AND MAINTENANCE

Provisions shall be made, as necessary, for operations and maintenance requirements and may include a formal plan commensurate with the size and complexity of the application.

Installed practices will be inspected periodically to ensure proper function.